

REMARKS

Claims 1-32 are currently pending in the subject application. Claims 1, 5, 9, 13, 17, 21, 25, and 29 have been amended.

Claims 1-32 stand rejected under 35 USC § 103 based on U.S. Patent No. 6,581,205 issued 17 July 2003 to Cochrane et al. ("Cochrane").

Applicants submit that Cochrane discloses the prior art as described in the background section of the specification. For example, Cochrane discloses:

To determine whether an insert or update is required, a DELTA-T table may be created DELTA-T may then be outerjoined with MV,

....
That is, the DELTA-T is first grouped on column A, and then an outerjoin is performed with MV. The derived table Q(A,S,) is the tuple-preserving operand, whereas MV is the null-producing operand. With the outerjoin operation, both matching as well as non-matching rows with respect to the grouping column A of the DELTA-T are returned. By definition of the outerjoin, the output column MV.C (null-producing operand) is null when there is a row in Q(A,S,C) that does not have a matching value of A in MV.

Hence, the value in MV.C can be used as an indicator to separate out the matching and non-matching rows.

....
As a result, both the matching and non-matching pairs can be computed in a single operation using an outerjoin.

Column 5, line 58 to column 7, line 10 (emphasis added).

Cochrane further discloses:

FIG. 4 is a QGM that illustrates the operation of the present invention. Summary tables 400 (or materialized views) are based on the results of a specification query 402 that condenses, combines, or otherwise processes one or more underlying base tables 404. When the underlying base tables 404 are modified, the summary table 400 must also be maintained to accurately reflect the modified tables. The results of the specification query 402 are joined 406 to the summary table 400 to determine whether an UPDATE 408, DELETE 410, or INSERT 412 operation is required to maintain the summary table 400.

Column 5, lines 9-19 (emphasis added).

These passages of Cochrane show that Cochrane utilizes multiple statements to enact the complete process. One statement is used to determine the matching and non-matching pairs, i.e., determine which modification operation is required (“As a result, both the matching and non-matching pairs can be computed in a single operation using an outerjoin.”) and multiple other query language statements would be used to enact the modification operations (“to determine whether an UPDATE 408, DELETE 410, or INSERT 412 operation is required to maintain the summary table 400”). One skilled in the art understands, as revealed on page 3 of the disclosure, that these additional statements cause additional scans of each subject table. One scan is required for the outerjoin, and an additional scan is required for *each* of the UPDATE, DELETE or INSERT operations.

Conversely, the subject claim element in amended claims 1 and 17 is “the method performing no more than one scan per table.” As Cochrane discloses *multiple query language statements performing multiple scans per table* to enact the process, Cochrane does not disclose “the method performing no more than one scan per table” as recited in amended claims 1 and 17.

The subject claim element in amended claims 9, is “the method using a single query language statement.” As Cochrane discloses *multiple query language statements performing multiple scans per table* to enact the process, Cochrane does not disclose “the method using a single query language statement” as recited in claim 9.

Claims 5, 13, 21, 25, and 29 recite substantially the same elements as claim 9, therefore claims 5, 13, 21, 25, and 29 are patentable over Cochrane for at least the same reasons.

Claims 2-4, 6-8, 10-12, 14-16, 18-20, 22-24, 26-28, and 30-32 depend on claims 1, 5, 9, 13, 17, 21, 25, and 29, respectively, and are patentable over Cochrane for at least the same reasons.

CONCLUSION

On the basis of the above remarks, reconsideration and allowance of the claims is believed to be warranted and such action is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

Respectfully submitted,

Bingham McCutchen LLP

Dated: July 9, 2004

By: Janet D. Chance
Janet D. Chance
Reg. No. 55,048

Three Embarcadero Center, Suite 1800
San Francisco, CA 94111-4067
Telephone: (650) 849-4904
Telefax: (650) 849-4800